



Appl. No. 09/931,193

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Conformation No. 1385

Appl. No. : 09/931,193  
Applicants : Masato Katayama  
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Commissioner for Patents  
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DECLARATION UNDER RULE 1.132

I, MASATO KATAYAMA, do hereby declare and say that:

1. I am an inventor, joint owner and applicant of the above noted invention. The invention is owned jointly by The National Institute of Advanced Industrial Science and Technology, Tokyo, JAPAN; TOKAI KASEI CO. Ltd., Gifu, JAPAN; and Masato KATAYAMA, Aichi, JAPAN.

2. I have reviewed all the claims and understand the information contained therein. I have reviewed Ahmad et al (Physiologia Plantarum, 1987, 69(1), 137-40) and it does not teach or motivate one skilled in the art to apply 4-chloroindole-3-acetic acid to the surface of the leaf to promote the formation of new roots from a cutting as is required in independent claims 5, 16 and 17. The known method of root formation at the time of filing, to one skilled in the art, was the dipping of a cut stem in either a powder or solution containing root promoting formula and its placement into a growth medium such as potting soil. One skilled in the art would therefore not be motivated or taught by Ahmad et al to produce Applicants independent claims 5, 16 and 17.

3. I am intimately aware of the teachings of Katayama (Bioscience, Biotechnology, and Biochemistry Department, 2000, 64(4) 808-15) as I am one of the main authors of the paper. The paper was directed toward the study of root growth of seedlings and plant cuttings that were soaked and is silent regarding spraying. One skilled in the art would not be motivated to apply 4-CL-IAA to a leaf surface by spraying to initiate root growth of a cutting without reading the Applicants' patent specification.

4. The characteristic of this invention is to induce formation of roots on plant cuttings by spraying the agent onto only the leaves of the rootless plant cuttings, utilizing the characteristic of transition of the composition, which is described in formula 1, within the plants, thus the agent can reach the incision. To the best of my knowledge, one skilled in the art would not be motivated to apply any known root formation compounds to a leaf surface of a cutting to induce root growth. To the extent of my knowledge, spraying of plants with beneficial compounds, such as fertilizers, were sprayed only on plants having existing root structures, such as lawns, to expedite the transport of the beneficial compounds to the roots and not onto rootless cuttings as claimed in the instant application. One skilled in the art was unaware that spraying was an effective means of promoting root growth in cuttings and therefore the teaching is found only in the Applicants' specification.

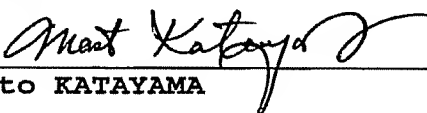
5. In addition, when spraying is compared to soaking, providing the plants with the roots-inducing agent without soaking the plants in the solution shows an

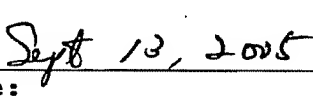
advanced effect. In the case of soaking the plants in the solution, if any viruses exist in plant cuttings without roots, other plants can be infected with the viruses, and the viruses may prevail in all of the plants. On the other hand, the method of providing the plants with the roots-inducing agent of plants by spraying the agent onto the only leaves of the plants after cutting and being placed into cultivation does not cause such a problem. Furthermore, the invention allows for reapplication of the root inducing formulation at timed intervals not possible with the application of the formulation to the stem.

6. The horticultural industry produces a large portion of plants grown for sale to consumer or other businesses by asexual means, specifically propagation from a parent by a rootless cutting. The industry has had a long felt need for the Applicants invention that was not addressed previously in the industry. As such, we believe that the system and method of the current invention has a high value in the industry, and is non-obvious as this was not a known method for root formation in a cutting.

7. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 8 of the United States Code, and that such willful false statement may jeopardize validity of the application or any patents issuing thereon.

Signed:

  
Masato KATAYAMA

  
Date: